1. HEART SOUND RECORDER DESCRIPTION & INTENDED USE

The Heart Sound Recorder (HSR) is a computer based Low Risk, General Wellness Heart Stress Monitor to acquire, display, record and save heart sounds.

Certain types of heart stress can be monitored by visualizing the Rate, Rhythm and Tone of the heart cycle. The heart’s reaction to certain types of stress, such as chemical, nutritional or emotional stress, can be nearly immediate, and its response to a given mitigation technique is often within 5-10 minutes. These changes can be observed by changes of the frequency, ratio, amplitude and characteristics of the heart waveform.

Intended Use:
1. A Heart Stress Monitor that records and displays the low frequency component of the heart cycle as a waveform on a PC.
2. For the purpose of visualizing the rate, rhythm and tone of the heart cycle.
3. Can be used to compare current and previous heart cycle waveforms for before and after analysis, or for trending purposes.

Indications for Use:
1. Used to enhance and support a healthy lifestyle through stress management.
2. Used to reduce the risk or impact of certain chronic diseases or conditions where it is well understood and accepted that healthy lifestyle choices may play an important role in health outcomes for the disease or condition.
3. Observe the effect of chemical or nutritional stress on the heart, such as MSG, caffeine, or refined sugar.
4. Can be used to provide visual information on the effects of chemical or nutritional induced stress on the heart.

Claims:
1. May be used to promote or enhance heart function.
2. May be used to promote or improve dietary choices.
3. May be used to promote, improve or manage levels of stress.
4. May be used to promote physical and emotional wellbeing.
THE CONTROL PANEL

Client Information Area

Function Control Area

Graph Display Area

HSR SOFTWARE QUICK START
ENTERING A NEW CLIENT

ENTERING “NEW CLIENT” INFORMATION

A. [New] button on Task Bar creates a new record in the database
   1. Be mindful of correct spelling of names
   2. Do not enter the same person as a New client more than once

B. Client Information
   1. First Name, Last Name, [Date/Time-stamp]
      a) ID - use for confidentiality i.e. client number + Date/Time-stamp
   2. Client Information: DOB, Sex, Weight, BP, HR, SpO2%

C. Same Name Protocol: BUG WARNING
   1. The software is unable to accommodate two clients with identical first and last names.
   2. If you encounter two identical names,
      a) Add a title or number to the Last Name field: Smith Jr. or Jones 1 or Doe2, etc.
      b) WARNING: Saving a duplicate First and Last name will result in Data Loss for the
         first client. See Troubleshooting.
      c) Always use Returning Client [New Session] for a second session. Entering the same
         client as New will result in Data Loss. See Troubleshooting.

D. Session Notes:
   1. Example: supplements recommended; caffeine or recent meal prior to session; prescription drugs taken, etc. Difficulty acquiring a
      recording
ENTERING A RETURNING CLIENT

ENTERING a “RETURNING CLIENT” SESSION (all the Client records are here)

A. Select [Client List] button on Task Bar
   1. Type LAST name to search
   2. Select the Client’s name > select [New Session]
   3. To review a previous session > [Select]
   4. Be mindful not to enter a person under misspelled or transposed names
CONTROL UNIT FRONT PANEL

Rhythm Light and Record Button
Microphone Jack
Volume / Sensitivity
Headphone Jack

HSR SOFTWARE QUICK START
RECORDING A HEART GRAPH

A. **Apply the Microphone** according to the techniques taught in the Training Sessions

B. **Select** the button from the **Valve** Task Bar to indicate the valve being recorded
   1. Select **[Start]** to begin the recording function.

C. **Graph Display Window** opens to display the client’s heart cycle.
   1. **TUNE:** Adjust the **Volume / Sensitivity** knob on the **Control Unit** according to the training received in the Training Sessions

2. **[Record]** button begins a 15 second recording
   a) At the end of the 15 sec. recording, the software returns to the Control Panel with the recorded valve’s Graph Display containing the graph just completed

3. **Start/Stop**
   a) A function to start or stop the live graph.
   b) To close the window, first **[Stop]** the live graph, then close

D. Recording options for recording a graph
   1. Select the **[RECORD]** button on bottom of display with a mouse or PC touchpad
   2. **Press the Rhythm Light Switch on Control Unit**
      a) When you Tune by adjusting the Volume/Sensitivity knob, you can instantly record by pressing the flashing light switch with your thumb
      b) The flashing Rhythm Light is a visual indicator of when you are nearly in tune i.e. if you do not observe the repeating beat of S1 & S2 (lub dub . . . lub dub), you need to adjust – either with microphone placement, or with volume/sensitivity
THE GRAPH DISPLAY WINDOW

ONCE THE RECORDING IS ACQUIRED

A. Manipulate calipers in Display Window
   1. Lower Caliper: Scroll through 15 sec of recording to select heart cycles you wish to display for each valve
   2. Upper Caliper: Only with Mitral valve selected, measure the heart rate of the heart cycle from common points on two adjacent S1 beats
      a) Displays under Heart logo: Measured heart rate: 67 Bpm @ Mitral Valve.
   3. Upper Caliper: All valves – measures event width as duration (time) of S1 or S2, rest periods, work/rest ratios, etc. Can be used for comparison.
      a) Measured Time displays as 0.00 seconds above Display Window

B. [Save] function
   1. The software has warnings if you accidentally omit a valve or close before saving,
   2. A session can be reopened to add notes, reposition the calipers, etc. The Save Warning window will question your motives.
THE DISPLAY CALIPERS

HSR SOFTWARE QUICK START
VIEW COMPLETE RECORDING

VIEW THE COMPLETE RECORDING

1. The Full Display [Full Disp] button in the Task Bar opens a new window that contains the full recording of the four valves.
2. Click the [Valve] buttons at the top to toggle through the four valve recordings.
3. The user is unable to save, print or create a pdf from this screen.
4. To save this graph, use Windows Snipit tool and save it as a jpeg file.
PRINT PREVIEW WINDOW

HSR SOFTWARE QUICK START
COMPARE SESSIONS

A. Select [Compare] button to compare two different sessions for the same client.
   1. Select **Client** > **Select two sessions to compare**
   2. Compare window > select valve to compare
   3. Manipulate upper and lower calipers of each session
   4. Print or Create PDF
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